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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/656,256	09/08/2003	Anbo Wang	3811-007-27	8598

7590 04/25/2005  
Supervisor, Patent Prosecution Services  
PIPER RUDNICK LLP  
1200 Nineteenth Street, N.W.  
Washington, DC 20036-2412

EXAMINER
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KIANNI, KAVEH C

ART UNIT	PAPER NUMBER
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2883

DATE MAILED: 04/25/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

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**Office Action Summary****Application No.**

10/656,256

**Applicant(s)**

WANG, ANBO

**Examiner**

Kianni C. Kaveh

**Art Unit**

2833

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --****Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 31 January 2005.
- 2a) ☐ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-40 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) \_\_\_\_\_ is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☒ Claim(s) 1-40 are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

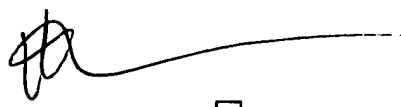
- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.

- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.



### DETAILED ACTION

Applicant's election with traverse of claims 25-31 in a paper submitted on 1/31/05 is acknowledged. However, applicant has submitted a new claim 40 that would require a new restriction requirement which is explained as follows:

The examiner notes that the new claim 40 that the applicant submitted on 1/31/05 in response to the examiner restriction requirement first is not a "linking claim" to any of the previously/presently submitted inventions since it has different limitations than that of limitations of each of the group inventions I and II; secondly, the newly submitted claim constitute a new distinct "invention" that is searchable in another class/subclass rather than in class 385 which the group inventions I and II belong; thirdly the newly submitted claim 40 is a claim that claims both an apparatus and the method steps of using the apparatus is indefinite under 35 U.S.C. 112, second paragraph. In Ex parte Lyell, 17 USPQ2d 1548 (Bd. Pat. App. & Inter. 1990) as follows:

A single claim which claims both an apparatus and the method steps of using the apparatus is indefinite under 35 U.S.C. 112, second paragraph. In Ex parte Lyell, 17 USPQ2d 1548 (Bd. Pat. App. & Inter. 1990), a claim directed to an automatic transmission workstand and the method steps of using it was held to be ambiguous and properly rejected under 35 U.S.C. 112, second paragraph.

Such claims should also be rejected under 35 U.S.C. 101 based on the theory that the claim is directed to neither a "process" nor a "machine," but rather embraces or overlaps

Art Unit: 2833

two different statutory classes of invention set forth in 35 U.S.C. 101 which is drafted so as to set forth the statutory classes of invention in the alternative only. Id. at 1551.

A telephone call was made to Mr. Heintz on 4/06/05 to request an oral election to the above restriction requirement, but did not result in an election being made.

### ***Election/Restrictions***

Restriction to one of the following inventions is required under 35 U.S.C. 121:

- I. Claims 1-31, drawn to a method for forming an optical fiber sensor including such steps as coating a first end of a first optical fiber with a film and splicing a second fiber to the first fiber comprising distinctly separate steps classified in class 385, subclass 18.
- II. Claims 32-39, drawn to a method for utilizing a plurality of sensors including the of step lunching an optical pulse into an optical fiber, the optical fiber having a plurality of optical sensors formed therein, the optical sensors being spaced apart, classified in class 385, subclass 12.
- III. Claim 40, drawn to a method for forming and multiplexing a plurality of optical fiber sensors on an optical fiber including the steps forming a plurality of masks over an optical fiber, the optical fiber having a core surrounded by a cladding, each of the masks having a single opening, the openings of the plurality of masks being spaced apart; exposing each of

the openings to radiation such that a refractive index of a corresponding portion of the optical fiber is changed, whereby light propagating in the optical fiber is reflected of the openings of the plurality of masks being spaced apart and measuring amplitudes of backward-radiation, classified in class 356, subclass 4.06.

The inventions are distinct, each from the other because of the following reasons:

Inventions I, II and III are related as process of making and process of using the product. The use as claimed cannot be practiced with a materially different product. Since the product is not allowable, restriction is proper between said method of making and method of using. The product claim will be examined along with the elected invention (MPEP § 806.05(i)).

Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

This application contains claims directed to the following patentably distinct species of the claimed invention:

- A. Claims 1-18, drawn to a method for forming an optical fiber sensor comprising/including the steps of a first end of a first optical fiber with a film, the film having a refractive index different from the first optical fiber; and splicing a second fiber to the first fiber, the second fiber having a refractive index different from the film.

Art Unit: 2833

- B. Claims 10-18, drawn to a method for forming an optical fiber sensor comprising/including the steps of exposing the first end and the second end to a vapor of a dielectric material such that dielectric material is deposited in the gap.
- C. Claims 19-24, drawn to a method for forming an optical fiber sensor including the steps of removing a portion of the cladding to form a void, the void having a first surface and a second surface, the first and second surfaces being parallel.
- D. Claims 25-31, drawn to a method for forming an optical fiber sensor including the steps of forming a mask over an optical fiber, the optical fiber having a core surrounded by a cladding, the mask having a single opening; exposing the opening to radiation such that a refractive index of a portion of the fiber corresponding to the opening is changed.

In the above species Groups A and B the applicant is required to chose one of the following patentably distinct species of between group inventions i or ii, and between iii or iv:

- i. wherein the film is deposited using a sputtering technique
- ii. wherein the film is deposited using a vapor deposition technique
- iii. wherein the film comprises magnesium oxide
- iv. wherein the film comprises titanium dioxide

In above species Group C the applicant is required to chose one of the following patentably distinct species of group inventions i' or ii' as follows:

- i'. wherein the dielectric material comprises magnesium oxide
- ii'. wherein the dielectric material comprises titanium dioxide.

In the above Group Invention II the applicant is required to chose one of the following patentably distinct species of group inventions a or b or c as follows:

- a. wherein the plurality of optical sensors are formed using the method of Claim 1.
- b. wherein the plurality of optical sensors are formed using the method of Claim 10.
- c. wherein the plurality of optical sensors are formed using the method of Claim 25.

Applicant is required under 35 U.S.C. 121 to elect a single disclosed species for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable. Currently, none of the claims are generic.

Applicant is advised that a reply to this requirement must include an identification of the species that is elected consonant with this requirement, and a listing of all claims readable thereon, including any claims subsequently added. An argument that a claim is allowable or that all claims are generic is considered nonresponsive unless accompanied by an election.

Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which are written in dependent form or otherwise include all the limitations of an allowed generic claim as provided by 37 CFR 1.141. If claims

Art Unit: 2833

are added after the election, applicant must indicate which are readable upon the elected species. MPEP § 809.02(a).

Should applicant traverse on the ground that the species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the species to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other invention.

A telephone call was made to Mr. Heintz on 4/06/05 to request an oral election to the above restriction requirement, but did not result in an election being made.

Applicant is advised that the reply to this requirement to be complete must include an election of the invention to be examined even though the requirement be traversed (37 CFR 1.143).

## **Conclusion**

Claims 1-40 constitute three patentably distinct inventions that each require a different search that that of other inventions and more importantly the newly submitted claim 40 is a claim that claims both an apparatus and the method steps of using the apparatus is indefinite under 35 U.S.C. 112, second paragraph. In Ex parte Lyell, 17 USPQ2d 1548 (Bd. Pat. App. & Inter. 1990) as follows:

A single claim which claims both an apparatus and the method steps of using the apparatus is indefinite under 35 U.S.C. 112, second paragraph. In Ex parte Lyell, 17



Art Unit: 2833

USPQ2d 1548 (Bd. Pat. App. & Inter. 1990), a claim directed to an automatic transmission workstand and the method steps of using it was held to be ambiguous and properly rejected under 35 U.S.C. 112, second paragraph.

Such claims should also be rejected under 35 U.S.C. 101 based on the theory that the claim is directed to neither a "process" nor a "machine," but rather embraces or overlaps two different statutory classes of invention set forth in 35 U.S.C. 101 which is drafted so as to set forth the statutory classes of invention in the alternative only. *Id.* at 1551.

Applicant further noted that submitting any new claim(s)/amendment-to-claims may result in new restriction requirement.

***Contact Information***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to K. Cyrus Kianni whose telephone number is (571) 272-2417.

The examiner can normally be reached on Monday through Friday from 8:30 a.m. to 6:00 p.m. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frank Font, can be reached at (571) 272-2415.

**Any response to this action should be mailed to:**

Commissioner of Patents and Trademarks  
Washington, D.C. 20231

**or faxed to:**

(703) 872-9306 (for formal communications intended for entry)

**or:**

Hand delivered responses should be brought to Crystal Plaza 4, 2021 South Clark Place, Arlington, VA., Fourth Floor (Receptionist).

Art Unit: 2833

Any inquiry of a general nature or relating to the status of this application should be directed to the Group Receptionist whose telephone number is (703) 308-0956.

A handwritten signature in black ink, appearing to read 'K. Cyrus Kianni'.

K. Cyrus Kianni  
Patent Examiner  
Group Art Unit 2883

April 14, 2005